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L3 ANSWER 1 OF 1 WPINDEX (C) 2002 THOMSON DERWENT

PI JP 02182354 A 19900717 (199034)* <--

AB JP 02182354 A UPAB: 19930928

Mfr. comprises quench-solidifying a metal melt comprising by wt.: 10-30% Mn, 8% or less Si, and balance Fe, The cooling rate of the melt is controlled to 1000-10000 k/s to thereby control the amt. of the non-equilibrium phase to obtain a solidified structure comprising the non-equilibrium phase and the equilibrium phase at predetermined USE/ADVANTAGE - A simple process for mfg. shape memory alloys the shape recovery rate of which is readily controlled by controlling the cooling rate at the casting.

In an example, a Fe-22Mn-6Si alloy melt was ejected through a nozzle on an SUS 304 roll rotating at 1000-3000 rpm, to obtain a 10mm wide and 20-80 micro-m thick ribbon. The cooling rate was controlled by the rotating speed of the roll, and at the cooling rate of 10 power 5 k/s, 100% shape recovery was obtd., which reduced to 0% at the rate of 10 power 3k/s or lower.

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